

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

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SAN FRANCISCO WATER DEPARTMENT
WATER QUALITY DIVISION

MILLBRAE, CALIF. 94030

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SUBJECT:-

November 16, 1976

Mr. Norman Lougee
Chief Engineer
Mountain View Water Department
540 Castro Street
Mountain View, CA. 94041

Shelley	Kirby	
Janda		
Hindley		
Lougee	<i>OK</i>	
Carlson	Financing	
Chirito	Discard	
	<i>FLK</i>	<input checked="" type="checkbox"/>

Dear Norm:

Enclosed is my report on the recent Fairchild Plant filter clogging problems. If there are any details you feel should be added to our records or if the report does not comport with your findings please contact me.

Thanks again for consulting me on water quality problems potentially related to our system.

Sincerely yours,

SDL
Steven D. Leonard
Water Quality Biologist

SDL:sg

SAN FRANCISCO WATER DEPARTMENT
INTERDEPARTMENTAL MEMO

NOV 18 1976

PUBLIC WORKS

TO: Harry W. Tracy
FROM: Steven D. Leonard
COPIES TO: _____

DATE: November 16, 1976
SUBJECT: Hatch Hatchy Aqueduct 76:18
FILE: _____

On Tuesday November 9, 1976, I received a call from Norman Lougee of the City of Mountain View relaying a complaint from Fairchild Corporation, (464 Ellis St., Mountain View), of "smelly mud" in cartridge filters on process waterlines. Wednesday November 10, 1976, I met with Norm Lougee, Lorraine Boyd (Facilities Engineer) and Bernard Yurash (Environmental Control Coordinator) at the Fairchild plant.

A visual inspection of the original filters revealed a clogged filter unlike any I had seen before. The material was the consistency of fine mud and had a strong septic odor (H_2S).

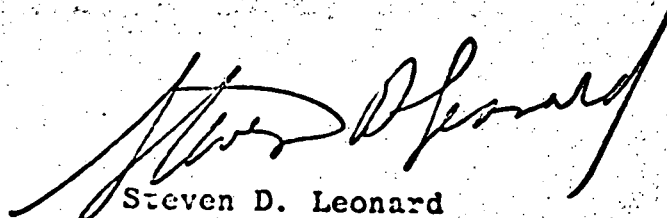
We inspected filters from the same area of the plant and these showed no sign of this material and had nothing unusual trapped on them (some sand and algae). We then inspected the strainer on the incoming city water. The strainer was a 250 micron device with a self flushing action. Norm and I both noticed that a newly installed backwash water discharge line was connected to the strainer with no device to prevent backflow of the waste water. A further investigation showed this backwash line connected directly to a sanitary sewer line without any air gap or anti-siphon device. (See diagram.) The potential for back siphonage appeared very great because the sanitary sewer line was 6 to 8 feet higher than the strainer. Norm and I pointed this out to Ms. Boyd and Mr. Yurash. Norm made several specific suggestions on how to correct this dangerous connection. Mr. Yurash assured us that this would be corrected immediately.

Back at the lab, I examined the filters and samples taken at the plant to ascertain the origin of the "mud". The sixty micron filters removed from process water lines had algae, silt and fair amounts of sand. The only unusual finding was that 15% was three hundred microns in size. This could be caused by a malfunction or bypassing of the strainer assembly. A bacteriological examination of the "mud" from the first filters was totally negative for coliforms.* A microscopic examination of the mud revealed silt, diatom shells, organic detritus, and very fine sand. Living in this material was a large population of nematode worms and protozoa. These findings suggest to me that this material came from a "dead end" in the system or possibly from the discharge line.

* Five tubes of 3GB broth and three fecal coliform (EC) broth were inoculated with "mud" from the septic filter suspended in dilution. No growth was noted in any tube.

It is difficult to come to any definite conclusions in regard to this occurrence. It seems to be isolated to the Fairchild Plant but we did not conduct a wide scale investigation of other possible plant areas. There is a definite cross connection from the strainer backwash line to a sanitary sewer but there was no evidence to show that this problem was caused by introduction of sewage into the drinking water. The idea of a "dead end" in the system seems to be the best possible answer although we did not find such a "dead end". Norm hypothesized an "operational dead end" (my words not his) in the mains that loop around the industrial complex. But again, we had no evidence to draw any firm conclusion. Finally, I see this as a problem not directly related to our water supply or operations.

I will send a copy of this memo to Norm Lougee and to Fairchild personnel for their records and possibly to stimulate further discussion.



Steven D. Leonard
Water Quality Biologist

SDL:sg

cc: Norman Lougee
Fairchild Personnel

Schematic of Fairchild Plant MT.View(November 10,1976)

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